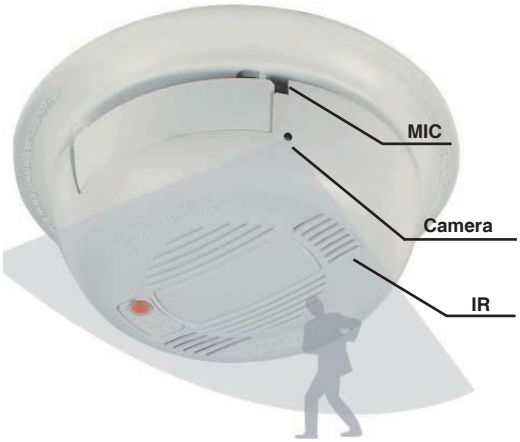
Covert Smoke Digital Video Record Camera

Remote Control **COLOR** CCD Camera 3.7mm Pinhole Lens

SDDVR35-32

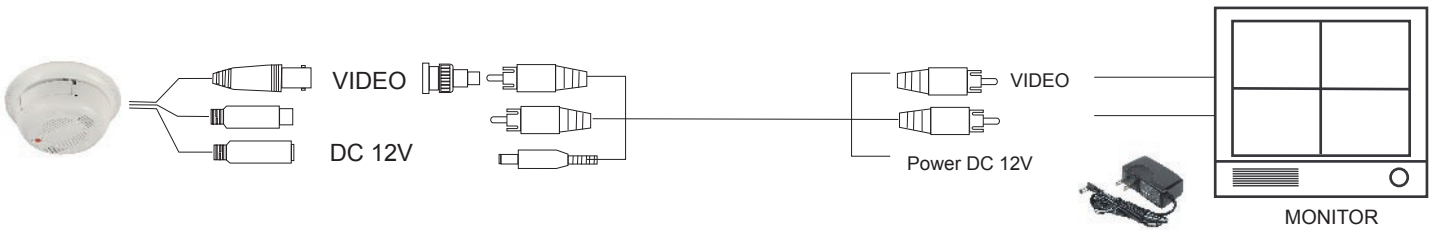
* Non-Active Smoke Detector Camera
* Mpeg 4 Compression format
* Memory Full Overwrite Funtcion
* Motion Detection 32G SD Card capability
* Easy Access SD Card
* Records Video/Audio & Takes
* Remote Control
* Included 4GB SD Card
* DC 12V 300mA



30 feet
Remote Control

Recording Time

SD Card Capacity	Recording Time	Photos
1GB	150Min(-/+ 10%)	23,200pcs (-/+ 10%)
2GB	300Min(-/+ 10%)	36,400pcs (-/+ 10%)
4GB	600Min(-/+ 10%)	92,800pcs (-/+ 10%)



ITEMS	SDDVR35-32
TYPE	COLOR
PICK-UP DEVICE	COLOR CCD IMAGE SENSOR
PICTURE ELEMENTS	NTSC: 512Hx492V - PAL: 512Hx582V
HORIZONTAL RESOLUTION	420 TVL
MINI ILLUMINATION	0.1 LUX
HORIZ.SYNC FREQUENCY	EIA/NTSC: 15.734Khz - CCIR/PAL: 15.625Khz
VERTICAL FREQUENCY	EIA/NTSC: 60Hz - CCIR/PAL: 18.9375
CLOCK FREQUENCY	EIA/NTSC: 19.0699 Mhz - CCIR: 18.9375
SCANNING SYSTEM	2:1 INTERLACE
S/N RATIO	46dB
ELECTRONIC SHUTTER	1/1000.000s
LENS	PINHOLE LENS
VIDEO OUTPUT	1Vp-p, 75 Ohms
AUDIO OUTPUT	2Vp-p (Max)
GAMMA	0.45
ALARM	
WEIGHT	100g
POWER SUPPLY	DC 12V
POWER CONSUMPTION	300mA
STORAGE TEMPERATURE	-30°C to +60°C
OPERATING TEMPERATURE	-10°C to +45\°C

* Specifications are subject to change without notice

** Designed in U.S.A.

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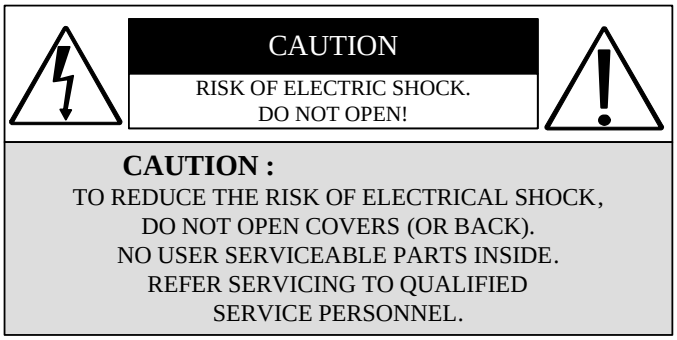
VER.: 1.0, CD

1. SAFETY PRECAUTIONS



It is advised to read the Safety Precaution Guide through carefully before operating the product, to prevent any possible danger.

WARNING: This symbol is intended to alert the user to the presence of un-insulated "dangerous voltage".

CAUTION: This symbol is intended to alert the user to presence of important operating and maintenance (Servicing) instructions in the literature accompanying the appliance.

Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems).

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Do not Plug and unplug the power cord, it may result product malfunction.

Do not install the product in an environment where the humidity is high.
Unless the product is waterproof or weatherproof, otherwise poor image quality may occur.

Do not drop the product or subject them to physical shocks.
Except for vandal-proof or shockproof product, otherwise malfunctions may occur.

Never keep the product to direct strong light.
It can damage the product.

Do not spill liquid of any kind on the product.
If it gets wet, wipe it dry immediately. Alcohol or beverage can contain minerals that corrode the electronic components.

Do not install the product in extreme temperature conditions.
Use the camera under conditions where temperatures are between 5°C(41°F) ~ 45°C(113°F). Be especially careful to provide ventilation when operating under high temperatures.

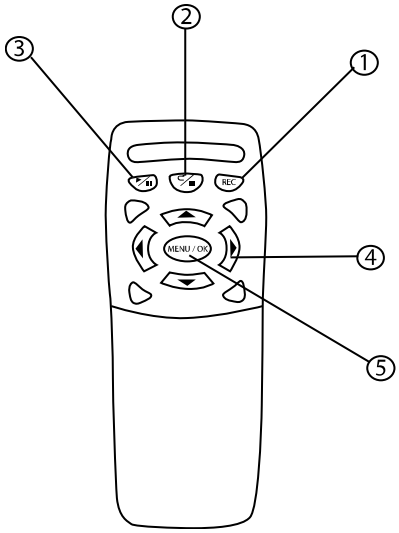
2. FEATURES

- The Mini DVR Module supports NTSC or PAL video system, and auto detects video loss.
- The Mini DVR Module is built-in with MPEG4-SP video and G.726 audio codec. It supports 1 channel video and 1 channel audio recording and playback operation.
- Audio/ Video data are recorded directly on the SD card with FAT16/ 32 file system and ASF file format. Simple data backup method to a PC.
- Audio/ Video data are recorded directly as ASF file format. You can view the data straight from your PC, and playback those ASF files with popular media players.
- USB interface that enables data to be transfer to a PC.
- For 1 GB SD card, the record time is about 5 hours at Standard Quality for NTSC: 30 fps @ 352 x 240 and PAL: 12 fps @ 640 x 480.
- The DVR supports: Manual, Motion Detection, Schedule, and Alarm Recording mode with independent video size, quality, and frame rate set up.
- Schedule Record (Schedule Record Priority Order: Alarm/ Motion Detection/ Continuous) and IR Illuminator can be setup to ON/ OFF and per hour.
- Support external alarm signal connection to enable alarm trigger recording.
- For motion detection, multiple detection blocks and appropriate motion trigger level set-up.
- Support key lock function.
- Use anywhere, the device supports either DC power adaptor.

3. PACKAGE CONTENT

* 4G SD Card
* Remote Control
* 2 x AA Batteries
* SD Card Pick Up Tool

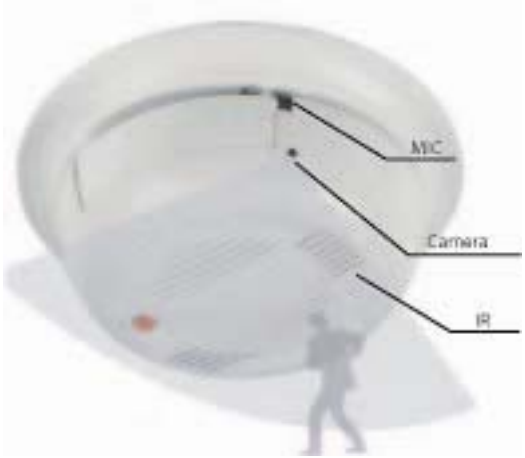
3.1 Remote Control Functions



1. Record Button: On/Off
2. ESC / STOP Button
3. Play / Pause Button
4. Directional Buttons
5. Menu / OK Button

4. Smoke DVR Description

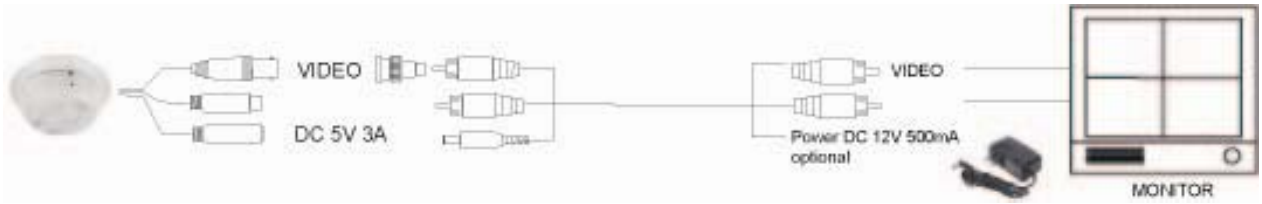
4.1 Smoke DVR Layout



4.2 Connection Overview

4.2.1 Put out SD Cards

4.2.2 A/V Connection:



5. OPERATION

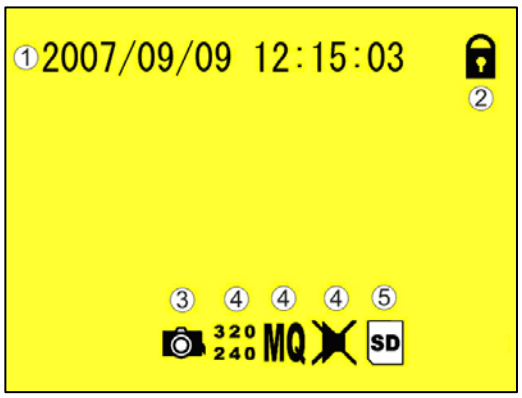
5.1 Power On

1. To power-up, connect to a DC 12V power input connector.
   ☛NOTE 1: Each time after power-on, the system auto-detects its peripherals. When the REC LED flashes indicate that the SD card is proceeding testing (complete boot time is several seconds) When an image file error has been detected, the system will initiate auto repairing.
2. After power on, the system auto enters live monitoring. When the system is currently under schedule recording, it auto enters record mode.
3. "SD" icon shown on the status line, indicates that SD card is operating normally.
4. When SD card is not inserted or problem occurs on the SD card. Rec indicator will flash quickly. Please re-format before proceeding.
5. You can play while the SD card is "read only", but you cannot record; and Rec indicator will flash quickly.
6. After power-loss the system auto returns to the previous recording mode.

⚠ Do not withdraw the CF card while booting. It may destroy the data stored within the CF card.

5.2 Live Mode

Live mode is the default setup after system start-up.



① **Time Display:** System Date and Time.
② **Button Lock:** Indicates all buttons are locked (buttons are ineffective).
③ **Video Status:** Indicates external camera connection.

④ **Record Status:** Manual Record Parameter.

: Record Size, please refer to【7.4 Record Setup】for VIDEO SIZE setup.

: Record Quality, please refer to【7.4 Record Setup】for VIDEO QUALITY setup.

: Audio Off Record, please refer to【7.4 Record Setup】for AUDIO RECORD setup.

⑤ **SD Card Status:**

：SD Card has not been inserted or malfunction.

：SD Card is proceeding file testing.

：SD Card is functioning normally.

：Overwrite record.

⚠ When SD card is not inserted, record and playback function is inapplicable, but monitoring is applicable.

5.3 Record Mode

1. Start Record: 3 Types of recording mode.

(1) Manual Record: Suitable to record at anytime. Press《Rec●》button, to enter manual recording status (start recording). For more information, please refer to【7.4 Manual Record & Schedule Record】.

(2) Motion Detection Record: Suitable to record, when there are severe image changes. Motion detection triggers schedule recording, but it will only start recording when the variation exceeds the alarm limitation value. For more information, please refer to【7.3 Motion Detection】and【7.4 Manual Record & Schedule Record】.

(3) Continuous Record: Suitable for few constant frame recording or on long-term continuous recording. For more information, please refer to【7.4 Manual Record & Schedule Record】.

(4) Alarm Record: Suitable for external alarm recording. When alarm schedule been setup, alarm icon will be shown on the display status bar (alarm triggered recording is setup).

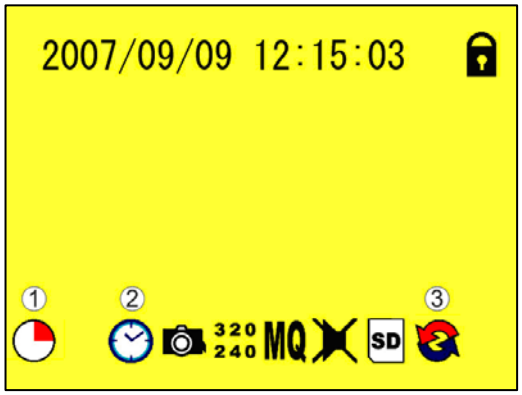
2. Stop Record:

Manual Record	Press《■/∩》button/ Manual Power-Off/ Auto Power-Off when System Power Shortage.
Schedule Record	Enter《▸/II》schedule recording, all kinds of recordings (Alarm/ Motion Detection/ Continuous) will be stopped.

To continue recording, please follow the methods below to restart recording.

Manual Record	Repress《●》button.
Schedule Record	Stop playback and the system will auto re-check the record schedule setup again.

3. Record Display:



① Record Status:

: Indicates recording is in progress.

② Record Mode:

：Manual Record ：Schedule Record

：Motion Detection Record ：Alarm Record

③ Record Storage Mode Status:

：Continuous Record

% ：Remaining Storage Capacity

4 System recording is determined according to the recording priority order (Record Priority: Manual/ Alarm/ Motion Detection/ Continuous).

5. Different recording modes may have different kinds of setups. Basic setup: video size, recording frames, video quality, and audio recording. When different recording modes are triggered, the system starts recording according to the different setup. This kind of design provides flexibility to ensure efficient recording time and quality. Example: Work hour from 8:00am to 6:00pm, setup「Schedule Record」to low video quality with less recording frames to extend the recording time. And off work hour, setup 「Motion Detection Record/ Alarm Record」 to enable high video quality with the highest recording frames, when an event occurs.

6. Video or audio may be recorded into the SD card (SD card is purchased separately).

⚠ Do not withdraw the SD card while recording. It may destroy the data stored within the SD card..

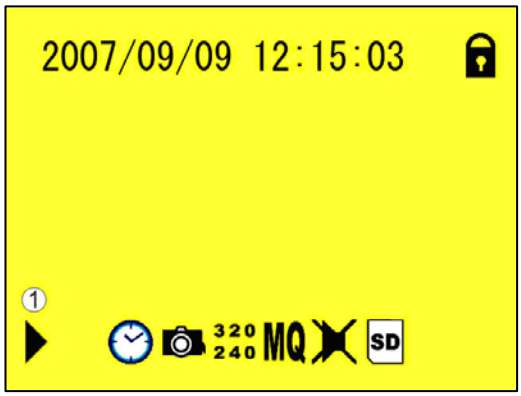
⚠ Power loss during recording results incomplete videos or errors.

⚠ Video loss during recording, the system stops recording, backups the files, and when the videos are normal again, the system will continue recording.

5.4 Playback Mode

Selectable Playback format: Continuous Playback and Searching Playback.

(1) Normal Playback: Press 《 ▶ / II 》 button to first playback the final recorded data, and then according to the SD card file recording order.



① Playback Status:

▶ : Press 《 ▶ / II 》 button once to playback, press it again to pause.

◀◀ ▶▶ : Press 《 ◀ 》 or 《 ▶ 》 button to Fast Rewind or Fast Forward (Speed: x2/ x4/ x8/ x16/ x32). Press 《 ▶ / II 》button to return to normal speed playback.

II : During playback, press 《 ▶ / II 》 button to pause playback and press again to return to playback status.

⏮ ⏭ : During pause, press 《 ◀ 》 or 《 ▶ 》 button to step back one frame or to step forward one frame and press 《 ▶ / II 》 button to return to normal speed playback.

Press 《 ■ /∩ 》 button to stop playback function and to return to live status.

(2) Search and Playback: Enter MENU and select【SEARCH AND PLAY】item.

① File directory shows dates and the amount of contents under the directory. The user may press 《 ▲ 》 or 《 ▼ 》 button to move the cursor up or down.

② Current location page.

③ Event Record Status Icon:

：Manual ：Motion Detection ：Continuous ：Alarm (NOTE 1 & NOTE 2).

④ Each color distinguishing different recording events, the user may press《◀》or《▶》button to move the cursor left or right and immediately shows the first image of the highlighted event on the screen display background.

⑤ Displays the time highlighted by the event bar.

☛NOTE 1：Select the starting point and press《Enter》button to playback.

☛NOTE 2：Press《■/∩》button to stop playback and the system will return to【SEARCH and PLAY】selection and enables the user to select the prefered input source.

⚠ The device supports playback only to images recorded by our device, other ASF video files are not guaranteed.

5.5 PC Playback

1. The device uses SD card as its main storage. User may read the data stored in the SD card from the computers that supports SD card reader device.
2. All files (under DVMPG4 folder) has approximate size of 1MB and file names are ordered according to recorded times (sequence).

File Playback: User may use Microsoft®－Media Player or DivX－DivX Player (http://www.divx.com/) to playback video files.

⚠ When first time using Media Player to playback, it requires the most updated decoder from the Microsoft® software website.

5.6 SD Card Maintenance

1. The device supports only FAT16/ 32 file system; therefore it is unable to determine other file systems. Please format the SD card (enter【MENU/ SD CARD OPTIONS】and select “Format”).
2. The system supports only partial SD card file system repair. The system is unable to detect any file system damage, therefore please format the SD card (enter【MENU/ SD CARD OPTIONS】and select “Format”).

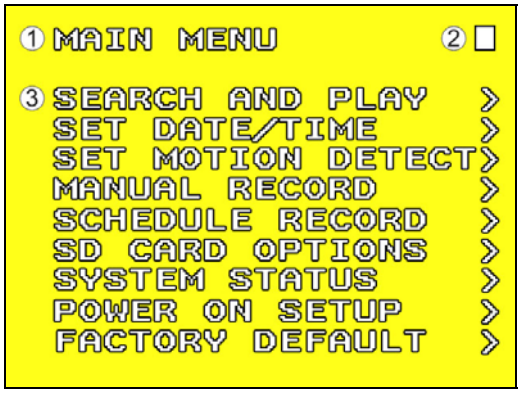
5.7 How to Download the Updated Software

1. Use the SD card to update your system firmware.
2. Please follow the steps below to update the software:
   (1) Copy the new system firmware into the new directory of the SD card from your computer.
   (2) Insert the SD card; switch off the main power and then restart.
   (3) Wait for 5 to 6 seconds, the system update will be complete and return to live mode.

⚠ Do not withdraw the SD card while booting, when power-loss occurs while proceeding step (3), please repeat step (2) and (3).

6. MENU SETUP

6.1 Main Menu



① **MAIN MENU:** Item subject.
② **Menu Layer Indication:** The device consists of three menu layers.

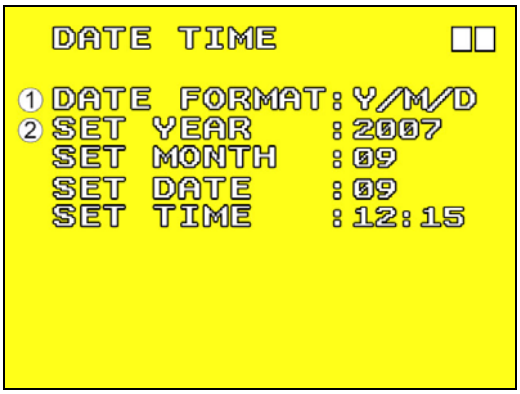
■ : First Menu Layer (Main Menu)
■■ : Second Menu Layer
■■■ : Third Menu Layer

③ **MENU Content:** Basic Menu Operations.
Press《▲》or《▼》button, to select the item.
Press《ENTER》button, to enter the sub menu (>).
Press《■/∩》button:

- Under second or third menu layer, the system will return to the previous menu layer (second layer to first layer or third layer to second layer).
- Under main menu (first menu layer), the system will enter live mode. Press《◀》or《▶》button, to increase or decrease the setting value of the item selected (NOTE 1).

☛NOTE 1: All words underlined and bold indicates「Default Value」.

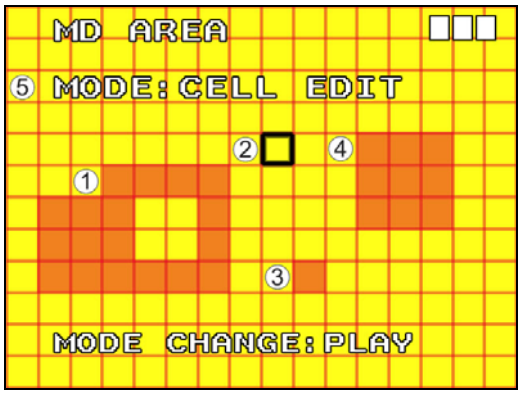
6.2 Date/ Time



①Date Format : ***Y / M / D*** M / D / Y D / M / Y
②Date/ Time Adjustment : Year Setup: 2000 - 2099
Month Setup: 01 - 12
Time Setup: 00 : 00 - 23 : 59
Return to factory default, no changes will be made.

6.3 Motion Detection

1. Window Setup:



① Detection Block: Formed by two or more cells.
② Cursor: Press《 ▶/II》button to switch to Select/ Edit mode.
③ Detection Cell: The whole screen is divided into 16x12 cells.
④ Detection Block.

2. Cursor Movement: Press《 ▶/II》button to switch to setup mode (cursor color is black), press《 ▲/▼/◀/▶》button to move the cursor freely.

3. Motion Detection Area Setup:

(1) Press 《 ▶/II 》 button to edit detection block.

⑤ Mode

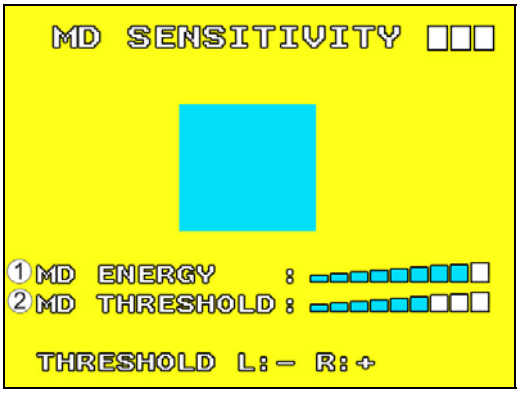
CELL EDIT	Single detection cell setup (detection/ non-detection)
DEL BLOCK	Disable a block
DEL ALL	Delete all cells
ADD BLOCK	Enable a block
ADD ALL	Enable all cells

(2) Press 《 ▶/II 》 button to switch cursor to edit mode (cursor color is pink). Press 《 ▲/▼/◀/▶ 》 button, follow step (1) to change the size of the detection block.

(3) Detection area is shown by color red, press《Enter》to enable/ disable the detection block.

4. Motion Detection Sensitivity Setup:

Changing the alert value may affect the recording sensitivity of the Motion Detection.



① MD ENERGY : Reveals current sensitivity rate (NOTE 1).

② MD THRESHOLD : Reveals user sensitivity rate setup. Press 《 ◀ 》 or 《 ▶ 》 button, to change the motion detection threshold level (NOTE 2).

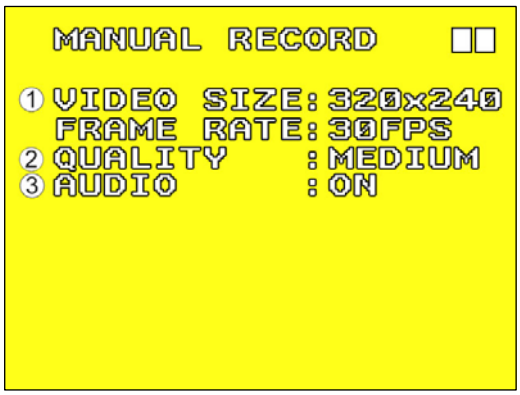
☛NOTE 1: Motion detection is triggered when MD ENERGY level exceeds MD THRESHOLD level (red block).

☛NOTE 2: The red cells reveals the setup made by the user.

6.4 Record Setup

Selectable manual or schedule recording, basic setups are shown below:

1. MANUAL RECORD: Press (●) button to start recording (NOTE 1).



①Video Size/ Frame Rate Setup:

VIDEO SIZE	320x240	640x480
FRAME RATE (MAX)	30 fps	12 fps

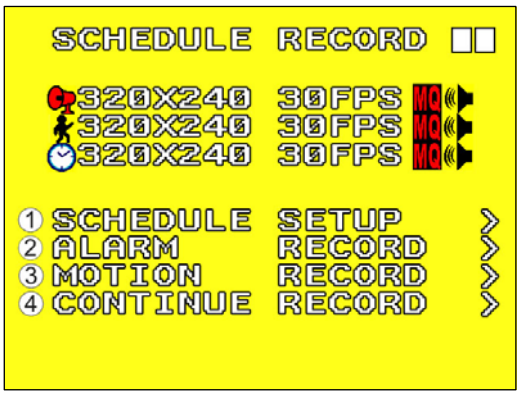
②Image Quality:

HIGH	Using high recording quality (More CF card storage capacity will be required).
MEDIUM	Using medium recording quality.
LOW	Using low recording quality (Less CF card storage capacity will be required).

③Audio Record: **Enable** or disable audio recording.

☛NOTE 1: Menu setup is inapplicable during manual recording.

2. SCHEDULE RECORD (Alarm Detection/ Motion Detection/ Continue): Records only within the setup time range.



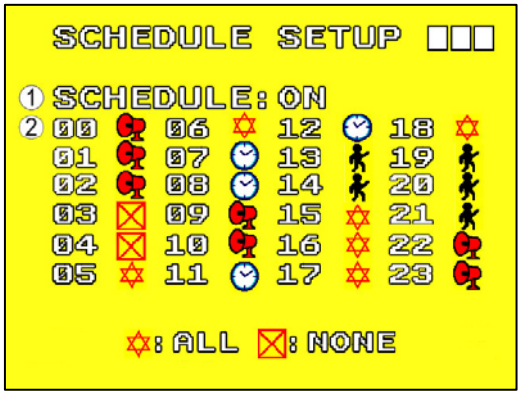
① SCHEDULE SETUP ：Enable/ Disable schedule and record mode setup.

② ALARM RECORD ：Alarm setup.

③ MOTION RECORD ：Motion detection setup.

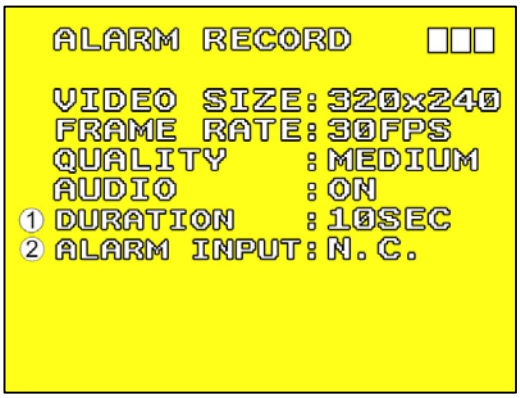
④ CONTINUE RECORD ：Continuous setup.

(1) SCHEDULE SETUP：



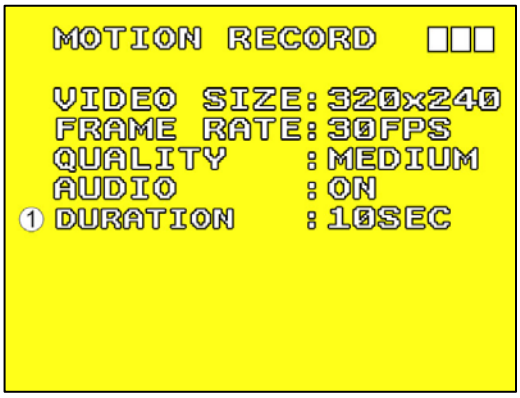
① **SCHEDULE** ：Record ON / **OFF** setup (default setup is OFF).
② **SCHEDULE MODE** ：Press 《▲》 or 《▼》 to setup schedule time. Press 《◀》 or 《▶》 to setup different types of recording schedule. (：Motion Detection Record ：Continuous Record ：Alarm Triggered Record).

(2) Increase setup during Alarm Detection:



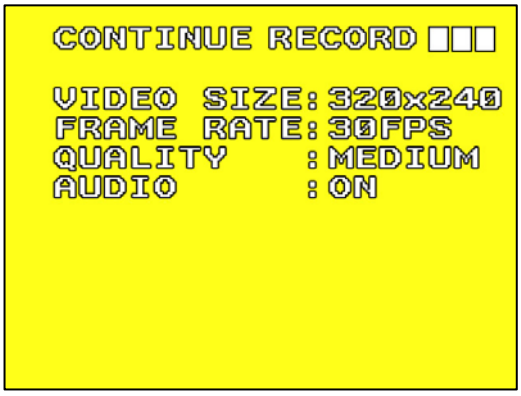
① **DURATION** ：Duration time when motion detection has been triggered (05 ~ 90 SEC (increase by every 5 SEC) / **10 SEC**).
② **ALARM INPUT** ：Alarm trigger method (**N.C.**/N.O.).

(3) Increase DURATION setup during Motion Detection Record:



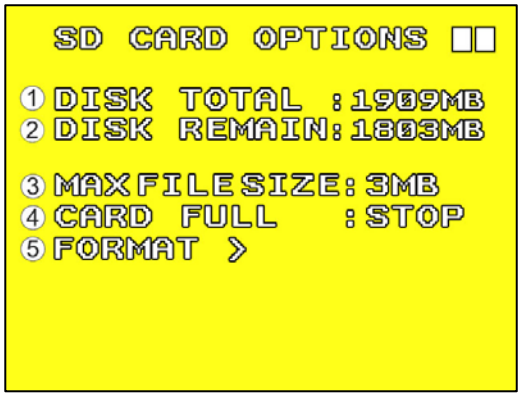
① **CONTINUOUS RECORD** ：Continuous record time when motion detection has been triggered (05 ~ 90 SEC (increase by every 5 SEC) / **10 SEC**).

(4) CONTINUE RECORD:



Setup method is similar to manual record setup, for more information please refer to [7.4 1. MANUAL RECORD].

6.5 SD Card Options

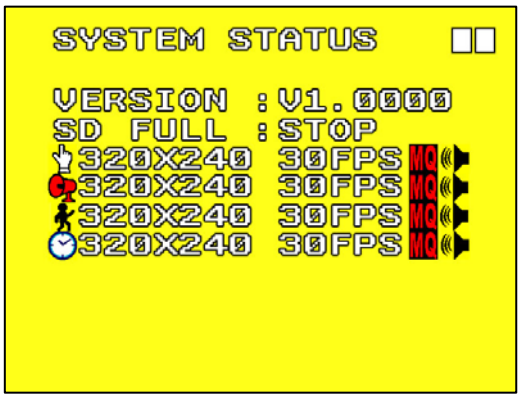


① **TOTAL SPACE** ：SD card total capacity.
② **REMAIN SPACE** ：SD card remaining capacity.

☛NOTE 1: Proceeding continuous recording, old videos can be deleted and overwritten. Please confirm before setup.

☛NOTE 2: Recording time depend on the SD card capacity, different recording modes, and degree of video variation.

6.6 System Status



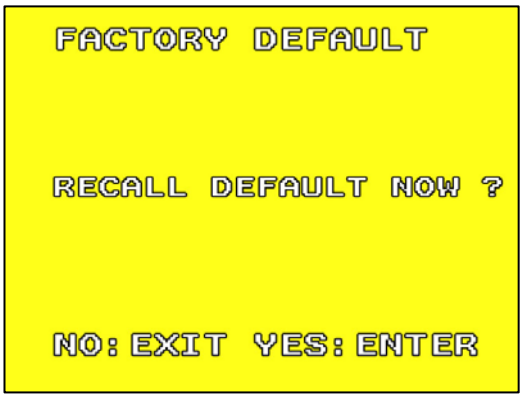
Press any button to return to the Main Menu.

6.7 Power On Setup

① LANGUAGE ：Setup menu language.
② COMPOSITE ：Setup video output format, **NTSC**/ PAL (NOTE 1).

☛NOTE 1: Connect the camera, the device auto detects NTSC/ PAL video system (the output video system will be setup the same as its input video system). Without connecting the camera, the video system setup will be the same as its previous setup.

6.8 Factory Default



Press《Enter》button, returns all settings to the factory default value (NOTE 1).
Press《■/∩》button, exit this screen display and returns to the Main Menu.

☛NOTE 1: Return to factory default will erase all configuration values and return to the Factory Default values（except Date and Time setup）. Therefore, confirm before you proceed.

7. TROUBLE SHOOTING

Q1. What is the recording capacity for 1GB SD card?

A1. Different recording setup has different recording capacity. Table below shows possible recording time during continues recording applying different record mode.

Quality	Frame Rate	SD Card	High		Medium		Low	
VGA (640 x 480)	12 FPS	1 GB	155	min	280	min	340	min
QVGA (320 x 240)	30 FPS	1 GB	150	min	380	min	600	min

Q2. Why does the system auto reboot during normal operation?

A2. It indicates that the SD card error has been detected. To enable data completeness, monitoring procedure will reboot the device. After device reboot the system returns to the status before reboot (Ex.: returns to Manual Record or Schedule Record).

Q3. Why won't the drag scroll work when playback on PC?

A3. To solve this problem, please download "AsfTools" (http://www.geocities.com/myasftools).

9. SPECIFICATION

STANDARD FUNCTION		
Video	System	NTSC / PAL Video System and Video Loss Auto Detection
	Codec	MPEG4-SP ASF File Format
	Record Frame Rate	1, 2, … , Maximum fps selectable Maximum: 30 fps@320x240 / 12 fps@640x480
	Record Quality	Low / Medium / High
	Recording Date/Time	Overlay with Video Images in ASF File
	Input	1 CH Composite Video Line In
	Output	1 CH Composite Video Line Out
Audio	Sampling Rate	44.1 KHz
	Codec	G.726/ 32 kbps
	Input	1 CH Audio Line In
	Output	1 CH Audio Line Out
Audio Device		Microphone，Speak，Earphone
Storage Media		SD Card (FAT16/ 32)　MAX FILES: 16384 FILES
Serial Port		USB 1.1 (Read-Only)
Recording Mode		Manual / Schedule (Alarm / Motion Detection / Continue)
Motion Detection Setting		Multiple Blocks and adjustable sensitivity
Event Search Function		Property and first image of selected file is displayed
Playback Function		Play/Fast Forward/Fast Rewind/Pause/Step Forward/Step Backward
Playback Speed		x1/ x2/ x4/ x8/ x16/ x32
Power Supply		DC 12V/1A
Dimensions		38 mm (W) x 17.5 mm (H) x 38 mm (D)
Operating Environment		30%~80% RH, 5℃ ~ 45℃ (41℉ ~ 113℉)
Storage Environment		30%~90% RH, 0℃ ~ 50℃ (32℉ ~ 122℉)

(Note: Design and Specifications are subject to change without notice.)